

Zane Ma

Assistant Professor
Oregon State University
Computer Science
Last updated: 2026/02/06

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POSITIONS

- 2023–PRESENT **Assistant Professor** at *Oregon State University*
- Lead the [Applied Security and Trust Research @ OSU \(ASTRO\) Lab](#).
- 2023–PRESENT **Research Affiliate** at *Georgia Institute of Technology*
2021–2023 **Research Scientist II** at *Georgia Institute of Technology*
Advisor: Manos Antonakakis
- Co-advised several Ph.D. students on DNS, malware, IoT, and PKI research projects.

EDUCATION

- 2015 – 2021 **Doctor of Philosophy** in Computer Science, *University of Illinois at Urbana-Champaign*
Advisor: Michael D. Bailey
Committee: Adam Bates Yuile, Gang Wang, Nikita Borisov, Zakir Durumeric
- 2008 – 2012 **Bachelor of Arts** with Honors in Chemistry, *Princeton University*
Advisor: Erik J. Sorensen

AWARDS AND FELLOWSHIPS

- 2025 ACM IMC Distinguished Reviewer
- 2021 [Illinois CS Graduate Student Outstanding Service Award](#)
- 2020 [Mavis Future Faculty Fellowship](#)
- 2020 [Yunni & Maxine Pao Memorial Fellowship](#)
- 2019 Best Paper Award, The Web Conference (WWW)

RESEARCH PUBLICATIONS

Peer-reviewed Conferences

16. [RAID '25] Athanasios Avgetidis, Aaron Faulkenberry, Boladji Vinny Adjibi, Tillson Galloway, Panagiotis Kintis, Omar Alrawi, [Zane Ma](#), Angelos Keromytis, Fabian Monrose, Roberto Perdisci, Manos Antonakakis. “**From Concealment to Exposure: Understanding the Lifecycle and Infrastructure of APT Domains.**” *Research in Attacks, Intrusions and Defenses (RAID)*. October 2025. (Acceptance rate: 22% = 62 / 281 submissions)
15. [TMA '25] Kevin Sam Tharayil, Athanasios Avgetidis, [Zane Ma](#), Manos Antonakakis, Angelos Keromytis “**Understanding Orphan Flows.**” *Network Traffic Measurement and Analysis Conference (TMA)*. June 2025. (Acceptance rate: 36.5% = 19 / 52 submissions)
14. [S&P '24] Tillson Galloway, Kleanthis Karakolios, [Zane Ma](#), Roberto Perdisci, Manos Antonakakis, Angelos Keromytis “**Practical Attacks against DNS Reputation Systems.**” *IEEE Symposium on Security and Privacy (S&P)*. May 2024. (Acceptance rate: 14.4% = 170 of 1183 submissions)
13. [IMC '23] [Zane Ma](#), Aaron Faulkenberry, Thomas Papastergiou, Zakir Durumeric, Michael Bailey, Angelos Keromytis, Fabian Monrose, and Manos Antonakakis. “**Stale TLS Certificates: Investigating Precarious Third-Party Access to Valid TLS Keys.**” *ACM Internet Measurement Conference (IMC)*. October 2023. (Acceptance rate: 25.9% = 52 of 201 submissions)
12. [ACSAC '22] Aaron Faulkenberry, Athanasios Avgetidis, [Zane Ma](#), Omar Alrawi, Charles Lever, Panagiotis Kintis, Fabian Monrose, Angelos Keromytis, Manos Antonakakis. “**View from Above: Exploring the Malware Ecosystem from the Upper DNS Hierarchy.**” *Annual Computer Security Applications Conference (ACSAC)*. December 2022. (Acceptance rate: 24.1% = 73 of 303 submissions)
11. [IMC '21] [Zane Ma](#), James Austgen, Joshua Mason, Zakir Durumeric, Michael Bailey. “**Tracing Your Roots: Exploring the TLS Trust Anchor Ecosystem.**” *ACM Internet Measurement Conference (IMC)*. November 2021.

(Acceptance rate: 28.1% = 55 / 196 submissions)

10. [USENIX '21] Zane Ma, Joshua Mason, Manos Antonakakis, Zakir Durumeric, Michael Bailey. “**What’s in a Name? Exploring CA Certificate Control.**” *USENIX Security Symposium (Sec)*. August 2021. (Acceptance rate: 18.8% = 248 / 1319 submissions)
9. [WWW '21] Paul Murley, Zane Ma, Joshua Mason, Michael Bailey, Amin Kharraz. “**WebSocket Adoption and the Landscape of the Real-Time Web.**” *The Web Conference (WWW)*. April 2021. (Acceptance rate: 20.6% = 357 / 1736 submissions)
8. [CHI '20] Joshua Reynolds, Deepak Kumar, Zane Ma, Rohan Subramanian, Meishan Wu, Martin Shelton, Joshua Mason, Emily Stark, Michael Bailey. “**Measuring Identity Confusion with Uniform Resource Locators.**” *ACM Conference on Human Factors in Computing Systems (CHI)*. April 2020. (Acceptance rate: 24.3% = 760 / 3126 submissions)
7. [CSET '19] Zane Ma, Joshua Reynolds, Joseph Dickinson, Kaishen Wang, Taylor Judd, Joseph D. Barnes, Joshua Mason, Michael Bailey. “**The Impact of Secure Transport Protocols on Phishing Efficacy.**” *Workshop on Cyber Security Experimentation and Test (CSET)*. August 2019. (Acceptance rate: 31.1% = 19 / 61 submissions)
6. [WWW '19] Amin Kharraz, Zane Ma, Paul Murley, Charles Lever, Joshua Mason, Andrew Miller, Nikita Borisov, Manos Antonakakis, Michael Bailey. “**OUTGUARD: Detecting In-Browser Covert Cryptocurrency Mining in the Wild.**” *The Web Conference (WWW)*. May 2019. (Acceptance rate: 18.0% = 225 / 1247 submissions)
Best Paper Award
5. [IMC '18] Seoung Kim, Zane Ma, Siddarth Murali, Josh Mason, Andrew Miller, Michael Bailey. “**Measuring Ethereum’s Peer-to-Peer Network.**” *ACM Internet Measurement Conference (IMC)*. November 2018. (Acceptance rate: 24.7% = 43 / 174 submissions)
4. [USENIX '17] Zane Ma, Manos Antonakakis, Tim April, Michael Bailey, Matt Bernhard, Elie Bursztein, Jaime Cochran, Zakir Durumeric, J. Alex Halderman, Luca Invernizzi, Michalis Kallitsis, Deepak Kumar, Chaz Lever, Joshua Mason, Damian Menscher, Chad Seaman, Nick Sullivan, Kurt Thomas, Yi Zhou. “**Understanding the Mirai Botnet.**” *USENIX Security Symposium (Sec)*. August 2017.
(Acceptance rate: 16.3% = 85 / 522 submissions)
3. [NDSS '17] Zakir Durumeric, Zane Ma, Drew Springall, Richard Barnes, Nick Sullivan, Elie Bursztein, Michael Bailey, J. Alex Halderman, Vern Paxson. “**The Security Impact of HTTPS Interception.**” *Network and Distributed Systems Symposium (NDSS)*. February 2017. (Acceptance rate: 16.1% = 68 / 423 submissions)
2. [WWW '17] Deepak Kumar, Zane Ma, Zakir Durumeric, Ariana Mirian, Joshua Mason, Michael Bailey, J. Alex Halderman. “**Security Challenges in an Increasingly Tangled Web.**” *World Wide Web Conference (WWW)*. April 2017. (Acceptance rate: 17.0% = 164 / 966 submissions)
1. [PST '16] Ariana Mirian, Zane Ma, David Adrian, Matthew Tischer, Thasphon Chuenchujit, Tim Yardley, Robin Berthier, Josh Mason, Zakir Durumeric, J. Alex Halderman, Michael Bailey. “**An Internet-Wide View of ICS Devices.**” *IEEE Conference on Privacy, Security, and Trust (PST)*. December 2016. (Accepted.)

Workshops

1. [MADWeb '26] Lucas Stephens, Jacob Porter, Zane Ma. “**Work-in-progress: Spurious Credentials in Breach Compilations.**” *Workshop on Measurements, Attacks, and Defenses for the Web (MADWeb)*. February 2026. (Acceptance rate: 47.2% = 17 / 36 submissions)

Preprints

1. [arXiv] Predrag Despotovic, Pranab Mishra, Kevin Rossel, Athanasios Avgetidis, Zane Ma. “**Unpacking .zip: A First Look at Domain and File Name Confusion.**” *arXiv.org*. February 2026.

FUNDING

3. Taxonomizing Opportunities for Web3 Attacks/Recon/Defense (TOWARD)
 - **My role: PI (Subcontract)**
 - Funding agency: DARPA
 - Personal share: \$250,000 (100%)
 - Total: \$250,000
 - 09/01/2025 to 10/05/2026
2. CyberCorps Scholarship for Service: A Clinical Rotation Approach to Professional Cybersecurity Workforce Development
 - **My role: Co-PI**
 - Funding agency: NSF
 - Personal share: TBD
 - Total: \$4,799,707.00
 - 1/1/2023 to 12/31/2027
1. Programmable INfrastructure for CounterIng Pugnacious Adversaries on a Large Scale (PRINCIPALS)
 - **My role: PI (Subcontract)**
 - Funding agency: DARPA
 - Personal share: \$196,947 (100%)
 - Total: \$196,947
 - 9/1/2023 to 9/30/2024

TALKS

Conferences & Forums

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|-----------|--|
| Oct. 2024 | Stale TLS Certificates: Investigating Precarious Third-Party Access to Valid TLS Keys
<i>CA/Browser Forum</i> |
| Oct. 2023 | Stale TLS Certificates: Investigating Precarious Third-Party Access to Valid TLS Keys
<i>ACM Internet Measurement Conference (IMC '23)</i> |
| Apr. 2022 | Tracing Your Roots: Exploring the TLS Trust Anchor Ecosystem
<i>Hot Topics in the Science of Security (HotSoS '22)</i> |
| Nov. 2021 | Tracing Your Roots: Exploring the TLS Trust Anchor Ecosystem
<i>ACM Internet Measurement Conference (IMC '21)</i> |
| Oct. 2021 | Exploring CA Certificate Control
<i>CA/Browser Forum</i> |
| Aug. 2021 | What's in a Name? Exploring CA Certificate Control
<i>USENIX Security Symposium (Sec '21)</i> |
| Aug. 2019 | The Impact of Secure Transport Protocols on Phishing Efficacy
<i>Workshop on Cyber Security Experimentation and Test (CSET '19)</i> |
| Feb. 2018 | Mirai and the Future of IoT botnets
<i>M3AAWG: 42nd General Meeting</i> |
| Aug. 2017 | Understanding the Mirai botnet
<i>USENIX Security Symposium (Sec '17)</i> |

Seminars & Guest Lectures

Dec. 2025	Penetrating the PKI Blinders: Examining the web PKI through an internet-wide lens <i>Oregon Cybersecurity Center of Excellence Seminar</i>
May 2024	Peeking into the WebPKI: Uncovering the Trust That Sustains Web Server Authentication <i>NOISE Lab Seminar</i>
Jul. 2022	Reflections on Trusting Identifiers: The Foundations of Social Engineering <i>Stanford Security Seminar</i>
Nov. 2021	WebPKI and Trust <i>Stanford CS249i Guest Lecture</i>
Sept. 2021	Understanding the Trust Relationships of the Web PKI <i>Georgia Tech Cybersecurity Lecture Series</i>
Apr. 2020	Fundamentals of Phishing: A Usability Perspective <i>UC San Diego Security Seminar</i>
Nov. 2017	Understanding the Mirai botnet <i>University of Chicago Security Seminar</i>

SELECTED PRESS

- **[KEZI]** Eugene man faces 10 years in prison for large-scale cyberhacking, DOJ says. August 2025.

TEACHING

Winter 2025	CS/ECE478: Network Security[†]	<i>Instructor</i>
Fall 2024	CS499/579: Empirical Computer Security	<i>Instructor</i>
Fall 2023	CS499/579: Empirical Computer Security[†]	<i>Instructor</i>
Spring 2021	CS 461: Intro to Comp. Security	<i>TA</i>
Fall 2020	CS 461: Intro to Comp. Security	<i>TA*</i>
Spring 2020	CS 461: Intro to Comp. Security	<i>TA</i>
Fall 2019	CS 461: Intro to Comp. Security	<i>TA</i>
Spring 2019	CS 461: Intro to Comp. Security	<i>TA</i>
Spring 2018	CS 461: Intro to Comp. Security	<i>TA</i>
Fall 2015	CS 241: System Programming	<i>TA*</i>

**Outstanding instructor rating (top 10%)*

[†]Newly created or re-designed course

MENTORSHIP

Ph.D. students

2025 – PRES. Predrag Despotovic

Masters students (* = Thesis)

2023 – PRES. *Lucas Stephens User authentication breaches.
2024 – PRES. *Andrew Le DNS semantic modeling.
2024 – PRES. *Elliot Foley Image provenance systems.
2025 – PRES. *Derek Greene WebPKI domain control validation.
2024 – 2025 *Alexis Deviney ENS name resolution and ownership.

Undergraduate (* = Honors College w/ Thesis)

2025 – PRES. Jacob Porter
2024 – 2025 *Ksenia Bannova Comparison of key transparency systems.
2024 – 2025 *Derek Greene Domain control validation attack surface.
2023 – 2025 *Lucas Stephens Credential dump outlier removal.
2025 – 2025 Kevin Rossel
2023 – 2025 Abigail Whittle
2023 – 2025 Jacquelyn Sansone
2024 – 2024 Owen Debelak

Committees

2025 MS David Richardson
2025 MS Naman Kumar
2025 MS Gokul Kesavamurthy
2024 MS (Project) Juily Deshpande
2024 MS (Project) Avani Sathe
2024 MS (Project) Atharva Joshi

SERVICE

Professional

2026	USENIX Security Symposium (Sec)	<i>Program Committee</i>
2026	ACM Internet Measurement Conference (IMC)	<i>Program Committee</i>
2026	Web Conference	<i>Program Committee</i>
2026	Workshop on Measurements, Attacks, and Defenses for the Web (MADWeb)	<i>Program Committee</i>
2025	ACM Internet Measurement Conference (IMC)	<i>Program Committee</i>
2025	USENIX Security Symposium (Sec)	<i>Program Committee</i>
2025	IEEE Symposium on Security and Privacy (S&P)	<i>Program Committee</i>
2024	ACM CoNEXT Workshop on Decentralization of the Internet (DIN)	<i>Program Committee</i>
2024	IEEE Symposium on Security and Privacy (S&P)	<i>Program Committee</i>
2023	Workshop on IoT Security and Cyber Threat Intelligence (IoT SCTI)	<i>Program Committee</i>
2023	Workshop on Cryptography Applied to Transparency Systems (CATS)	<i>Program Committee</i>
2023	NSF Secure and Trustworthy Computing (SaTC)	<i>Panel Reviewer</i>
2023	IEEE Symposium on Security and Privacy (S&P)	<i>Program Committee</i>
2022	ACM Conference on Computer and Communications Security (CCS)	<i>Program Committee</i>

Institutional

2024 – PRES.	OSU Information Security Advisory Committee	<i>Member</i>
2023 – PRES.	OSU EECS Graduate Admissions Committee	<i>Member</i>
2023 – PRES.	OSU Security Club	<i>Faculty Advisor</i>

REFERENCES

Michael Bailey
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Georgia Institute of Technology
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Manos Antonakakis
Associate Professor and Dean's Professorship in Electrical and Computer Engineering
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